Siyu Ma (Sue)

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Education

- **University of California, San Diego**   **San Diego, USA**
  M.S. in Computer Science   *2025 (Expected)*

- **University of Electronic Science and Technology of China**   **Chengdu, China**
  B.E. in Software Engineering (**GPA:** 3.87/4.00, Honor Graduate)   *2023*

Skills

- **Languages:** C++, HTML/CSS, Java, JavaScript, LaTeX, Python, SQL
- **Frameworks and Skills:** Express, React, Bootstrap, jQuery, Node.js, MySQL, Redis, Redux, JWT, Flask, CDN, Nginx, AWS, Object-Oriented Design(OOD), SQL Server, Git

Experience

Chengdu Qianzai AI & Tech Company   **Chengdu, China**
Software Development and Algorithms Intern   *02/2022 - 06/2022*
Designed and developed a backend and ML part of a song generation system using lyrics input for 400,000 classroom students. Submitted as a patent.

- Utilized **AWS S3 CLI** and **Python** for efficient preprocessing of a 5GB dataset, ensuring 48K to 24K audio resolution conversion while maintaining audio quality.
- Incorporated **Redis** for advanced multi-threading, facilitating the training of our in-house developed model using only 1% of Microsoft Xiaoice's extensive data volume.
- Crafted a backend architecture using **Node.js** and **Express.js**, ensuring quick API responses and a scalable system.
- Conducted performance evaluations, achieving a remarkable 6x speed boost in system operations.
- Authored user tutorial documentation in LaTeX and deployed the system as a web application using Docker.

Selected Projects

MeowMate
A full-stack platform connecting cat enthusiasts for caregiving services and showcases.

- Designed 5 dynamic client-side pages using **React.JS** with integrated animations and intuitive UI.
- Crafted a data model after in-depth entity-relation analysis, employing a **MySQL** database with 5 distinct schemas.
- Optimized backend with **Django** using 6 **RESTful** API routes; enhanced response times with **Redis** caching.
- Implemented advanced security with a captcha-based email verification system to mitigate Sybil attacks.
- Successfully deployed on **AWS** using **Nginx**; post-launch, over 80% of users gave a 5-star rating.

Phoneme-Driven Mouth Facial Animation Web App
A web app for audio-driven singing facial animation, garnering acclaim from musical professionals with a 90% precision rate.

- Developed frontend using **React** and **Redux** for state management, delivering an intuitive UI/UX. Integrated **WebSockets** for real-time feedback on mouth animation previews.
- Built the backend using **Flask**, ensuring efficient handling of audio processing tasks. Incorporated **PostgreSQL** for storing user profiles, animation metadata, and user-generated content.
- Implemented secure user authentication and authorization using `OAuth2.0` and **JWT**.
- Incorporated **CDN** to optimize the delivery of animation assets, reducing load times for global users.
- Designed a dynamic feedback system allowing users to rate and review animations, providing essential data to further refine the model's accuracy.